## Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

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- 1-14. (Cancelled)
- 15. (Currently amended) A method for synthesizing a double stranded nucleic acid molecule that contains information that represents computer-readable binary alphanumeric code, comprising at least the steps of:
  - i) hybridizing together a plurality of double-stranded nucleic acid fragments, each fragment comprising at least one sequence of bases that represent a unit of the <a href="mailto:binary">binary</a> alphanumeric code, and each fragment comprising at least one single stranded region that is capable of hybridizing to at least one other fragment; and
- ii) optionally ligating the hybridized fragments; to produce a double stranded nucleic acid molecule comprising a series of <u>binary</u> alphanumeric code units.
- 16. (Previously presented) A method according to claim 15, wherein each sequence of bases that represents a unit of the alphanumeric code consists of between 4 and 10 bases.

- 17. (Previously presented) A method according to claim 15 or claim 16, wherein each fragment consists of between 8 and 25 bases.
  - 18. (Cancelled)

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- 19. (Previously presented) A method according to claim 15, wherein at least 10 double stranded nucleic acid fragments are hybridized together in step (i), to produce a double-stranded nucleic acid molecule comprising 10 fragments.
- 20. (Previously presented) A method according to claim 15, wherein a plurality of double stranded nucleic acid molecules comprising a series of double-stranded nucleic acid fragments are synthesized and linked together.
- 21. (Currently amended) A double stranded nucleic acid molecule that contains information that represents computer-readable binary alphanumeric code, produced according to the method according to claim 15.
- 22. (Currently amended) A method of identifying at least one binary alphanumeric code unit contained within a double stranded nucleic acid molecule produced according to claim 15, comprising the steps of:
  - i) binding a labelled probe that is specific to at least one alphanumeric code unit to the unit; and

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- thereby detecting the presence of the <a href="binary">binary</a>
  alphanumeric code unit to which the probe binds.
- 23. (Previously presented) A library comprising a plurality of double stranded nucleic acid fragments as defined in claim 15.
- 24. (Currently amended) A kit for synthesizing a double stranded nucleic acid molecule that contains information that represents computer-readable binary alphanumeric code comprising a library of fragments according to claim 15 and a ligase.